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Small, Medium-sized and Large Businesses in the Canadian Economy: Measuring Their Contribution to Gross Domestic Product in 2005

by Danny Leung, Luke Rispoli and Bob Gibson

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.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0^s	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
^{p}	preliminary
^{r}	revised
x	suppressed to meet the confidentiality requirements of the *Statistics Act*
E	use with caution
F	too unreliable to be published
*	significantly different from reference category ($p < 0.05$)

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Abstract

The paper estimates the contributions to gross domestic product (GDP) made by small, medium-sized and large businesses in the Canadian business sector for 2005. The contribution of large businesses with 500 or more employees to business-sector GDP was 45.7%. Small and medium-sized businesses, including unincorporated businesses, accounted for the other 54.3%.

Executive summary

This paper adds to our understanding of the contributions made to the economy by small, medium-sized and large businesses in Canada. It does this by examining the shares of gross domestic product (GDP) produced by each of these size groups in the business sector.

Previous studies relied predominately on employment, an input to the production process, rather than on a measure of output. This study overcomes this problem by focusing directly on GDP.

The paper estimates business-sector GDP by business-size class for 2005. The contribution of large businesses with 500 or more employees to business-sector GDP was 45.7%. Small and medium-sized businesses, including unincorporated businesses, accounted for the other 54.3%.

GDP shares by business-size class are also calculated for 17 industries. Small and medium-sized businesses accounted for over half of the GDP in most industries. The exceptions were mining and oil and gas, manufacturing, transportation and information, where large-size businesses accounted for the largest share.

1 Introduction

Small and large firms play different roles in an economy. New firms that bring new products and ideas to markets are generally small at the beginning of their life cycle; later, as the industry turns to focus more on homogeneous products some firms begin to move down the cost curve by developing large-scale production processes that exploit economies of scale. Size diversity then exists within industrial populations because small and large firms fulfill different functions. The idea that small and large firms provide a different economic function is a feature of theories explaining the coexistence of large and small firms. These theories are often intertwined with the product life-cycle hypothesis. Porter (1979) and Caves and Porter (1977) speak of strategic groups within industries—with groups that focus on a survival strategy of achieving economies of scale and other groups that focus on a specialist's strategy of occupying market niches. More directly, Nooteboom (1994) argues that the difference in the core characteristics of small and large businesses means that they play alternating roles in the product life cycle: large firms have more resources to produce basic technological innovations; the closeness of small firms to their consumers means small firms are more able to translate these basic innovations into new products; larger firms are more able to exploit scale economies as price competition develops; smaller firms are in a better position to exploit residual niche markets.[1]

Analyses often compare various measures of size distribution across countries in order to infer differences in dynamism, maturity and efficiency of their economies.[2] In most of these studies, the importance of the small and medium-sized businesses is measured in terms of employment, which is an input to the production process. A superior measure is the amount of output produced—because large amounts of an input may be used by a particular group of firms (either small or large) to produce relatively little output.

This paper adds to our understanding of the contributions made to the economy by small, medium-sized and large businesses in Canada. It does this by examining the shares of gross domestic product (GDP) produced by each of these size groups in the business sector in 2005.[3] Compared with other measures of output like sales, GDP provides a more complete measure of economic performance because it measures value added, the unduplicated value of goods and services generated by labour and capital.[4] The key difference between a firm's sales and a firm's GDP is the amount of intermediate inputs used by the firm. A firm could have high sales but low GDP because it adds little to the value of the intermediate inputs it purchases.

As in many other papers, small, medium-sized and large businesses are defined by their employment size:

Small businesses are businesses with 1 to 99 employees;

Medium-sized businesses are businesses with 100 to 499 employees;

Large businesses are businesses with 500 employees or more.

---

1. Papers that present evidence consistent with these theories include Ács and Audretsch (1990) and Audretsch, Prince and Thurik (1999).
2. For example, Beck, Demirgüç-Kunt and Levine (2003) present cross-country evidence on the relationship between the share of employment in manufacturing accounted for by small and medium-sized businesses and various economic indicators, such as per capita GDP growth, the level and growth rate of GDP per capita of the lowest income quintile, and the share of population living below the poverty line.
3. Understanding the link between these shares and the dynamism and efficiency of the aggregate economy is left to future research.
4. In this paper, GDP is measured at basic prices.

In this paper, each firm is allocated to a size class based on the employment size of the commonly-controlled group of enterprises to which it belongs. At the head of this group of enterprises is an ultimate parent, an entity in a legal structure that controls through majority ownership one or more firms. In this paper, enterprises are consolidated into groups headed by an ultimate parent because it is the ultimate parent that is entitled to make decisions for the group of enterprises it owns and controls. Hence, the employment size of a firm here is the sum of all the employment in each firm controlled by its ultimate parent. In the case of a group of firms headed by a foreign ultimate parent or by a domestic ultimate parent with foreign operations, only the employment in its Canadian-based operations determines which size category it belongs to.

To obtain the components of GDP at the firm level, a large quantity of data from administrative sources (T2 Corporation Income Tax Return, T3 Trust Income Tax and Information Return, T4 Statement of Remuneration Paid, PD7 payroll tax accounts, individuals' T1 Income Tax and Benefit Return, Business Register) and surveys (Survey of Employment, Payroll and Hours, Workplace and Employee Survey, Unified Enterprise Survey, etc.) are used. The firm-level GDP measures are consistent with the National Accounts. The value-added concept of GDP is identical to the one used in the Input-Output Accounts, the definitions of the components of GDP follow those found in the National Accounts, and the estimates of GDP by size categories are benchmarked to industry GDP measures from the Input-Output Accounts.

Small and medium-sized businesses accounted for 54.3% of GDP in the Canadian business sector in 2005. Small and medium-sized business shares of GDP vary by industry. They accounted for over half of the GDP in all industries, except mining and oil and gas, manufacturing, transportation and information where large-size enterprises dominated.

Users of the GDP by size estimates should recognize that these estimates are point estimates. They are sensitive to the methods, the assumptions, and the particularities of the source data used to derive them. In absence of techniques to compute confidence intervals, one can show how sensitive the estimates are to seemingly small differences in methods or data. While presenting a comprehensive evaluation of the sensitivity of the estimates is beyond the scope of this first paper on GDP by size, some noteworthy assumptions are discussed later in the paper.

Section 2 explains some of the conceptual issues in developing GDP by size class. Section 3 describes the data sources. Results by industry for 2005 are presented in Section 4. A discussion of the sensitivity of the estimates to different assumptions is presented in Section 5. The last section presents concluding remarks.

2 Conceptual issues

2.1 The measurement of gross domestic product

Value added in the Input-Output Accounts is one of several GDP measures used in the System of National Accounts. Value added in the Input-Output Accounts is the sum of gross value added of all resident producer units.[5] It is also the difference between output and intermediate consumption (SNA 1993, paragraph 2.172). Using the Input-Output Accounts, GDP at the industry- or national-level can be calculated as follows:

GDP at basic prices = Wages and salaries
+ Supplementary labour income
+ Mixed income
+ Operating surplus (primarily corporate profits)
+ Indirect taxes on production less subsidies

This paper uses the same equation to calculate GDP for each business-size category. This calculation is possible because businesses report the above components of value added to the Canada Revenue Agency through their tax filing and to Statistics Canada through various surveys.

At the level of the total economy, GDP is also measured using the final expenditures approach, the sum of the final use of goods and services less the value of imports (SNA 1993, paragraphs 2.172 to 2.173). This approach does not permit the measurement of GDP by firm because some of the data are not collected at the firm level. For example, personal expenditures are collected at the individual or household level.

5. The Input-Output Accounts are on an establishment basis. This paper works at the level of the ultimate parent.

2.2 Assigning gross domestic product to the ultimate parent

Many firms often coexist within a hierarchy. Choosing the level of a business at which the importance of size is measured can therefore affect the results of the analysis. The Business Register defines an enterprise as a legal entity or consolidation (group of consolidated legal entities) associated with a complete set of financial statements corresponding to one economic entity. The ultimate parent enterprise is the entity in a legal structure that controls through majority ownership one or more enterprises.[6] In this paper, enterprises are consolidated into groups headed by an ultimate parent. The GDP of each firm is assigned to the ultimate parent that heads the group to which the firm belongs, and the size of the firm is the sum of employment across all the entities its ultimate parent controls. In this paper, enterprises are consolidated to the ultimate parent because it is the ultimate parent that makes decisions for the group of enterprises it owns and controls.

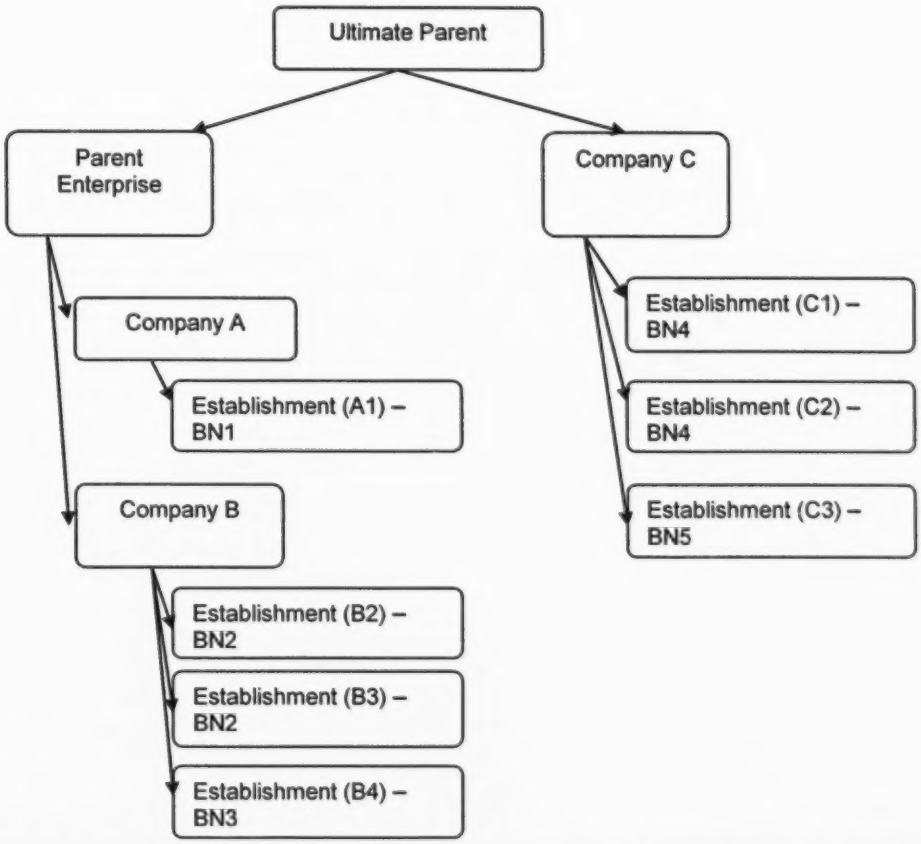
The example illustrated on the next page shows one possible complex structure headed by an ultimate parent. This ultimate parent controls one parent enterprise, which in turn controls two companies (Companies A and B), and Company C.[7] Company A has one establishment (A1), and Companies B and C each have three establishments.

It is not uncommon for large and complex businesses, such as the one below, to have establishments in various industries or to have establishments located in a number of different provinces. In this paper, the industry of an enterprise group headed by an ultimate parent is the industry where the group paid most of its wages.[8] On the other hand, the vast majority of businesses follow the simplest structure; the ultimate parent, enterprise and establishment are one and the same; they are located in only one province and they belong to only one industry.[9]

In the case of franchises, the franchisee is independently owned by a company or person and not owned by the franchisor. Based on this definition, the paper does not include the franchisee as part of the franchisor's ultimate parent legal structure.[10] However, since the franchisor developed the products and services offered by the franchisee, it could be argued that the franchisee does not operate independently from the franchisor and may very well be part of the larger business operating under the franchise brand.

6. The legal structure headed by each ultimate parent in Canada for 2005 was obtained from Statistics Canada's Business Register (Generic Survey Universe File [G-SUF]).
7. **Company** is the level at which operating profit can be measured. **Establishment** is the level at which the accounting data required to measure production is available (principal inputs, revenues, salaries and wages).
8. In contrast, the Business Register determines the industry of a complex business by examining where the business generated the most value added. Value added, however, is not directly observed in the Business Register. It is estimated by applying industry-specific ratios of value added to revenues from the System of National Accounts to revenues in the Business Register. The way in which an enterprise is assigned to an industry is one of the areas where sensitivity analysis could be performed in the future.
9. See Canadian Industry Statistics http://www.ic.gc.ca/epic/site/cis-sic.nsf/en/h_00005e.html.
10. The franchisor is the company that owns and controls the franchise system and grants the license to operate the franchise according to a certain method, and with the products and/or services that have been developed by the franchisor. The franchisee pays a franchisor for the franchise and a right to use the franchise system.

Example of a complex structure



Note: The example illustrated above shows one possible complex structure headed by an ultimate parent. This ultimate parent controls one parent enterprise, which in turn controls two companies (Companies A and B), and Company C. Company A has one establishment (A1), and Companies B and C each have three establishments.

2.3 Total economy versus business sector

In the previous section, it was stated that the ultimate parent makes decisions for the group of enterprises it owns and controls. However, when it comes to government entities, it is more difficult to ascertain the level at which decisions are taken. In addition, the wide variety of reporting entities in the government sector makes comparisons across entities and jurisdictions problematic. Size of entity has much less meaning because of the wide variety of practices across government in terms of consolidating payroll into small or large units. As a result, this paper focuses on the business sector.

The business sector is composed of all corporate businesses and unincorporated enterprises that are organized for profit, and other entities that produce goods and services for sale at a price intended at least to approximate the costs of production. Income trusts are included in the business sector, as are government business enterprises (GBEs), but rent that is imputed to owner-occupied housing is not.[11]

11. The official estimates for the business sector in the Input-Output Accounts include owner-occupied dwellings. For simplicity, the owner-occupied dwellings industry was moved from the business sector to the non-business sector for this analysis because the imputed rent of owner-occupied housing is attributed to households, the owners of the housing capital, not firms.

3 Data sources

In order to obtain measures of the different components of GDP, data from a number of sources are needed. Data at the firm level are available for most of these components: wages and salaries; portions of supplementary labour income; other operating surplus, and indirect taxes less subsidies. In these cases, the components of GDP for each firm are added up and allocated to the size category of the group of enterprises to which the firm belongs. For the remaining components of GDP, some are allocated entirely to the small-size category (mixed income, interest payments and depreciation for unincorporated businesses), and others are distributed across size categories using supplementary information (unlegislated portion of supplementary labour income—private pension plan contributions, supplementary medical and dental benefits, etc.). The resulting estimates of the components of GDP for each size class are then summed and benchmarked industry-by-industry to the Input-Output Accounts. The GDP by size estimates for the business sector are the sum of the benchmarked industry estimates.[12] The sub-sections below describe the mainly administrative tax data sources used to obtain each component of GDP.[13]

3.1 Labour income

Every business that employs workers, both incorporated and unincorporated, is required by the Canada Revenue Agency (CRA) to issue its employees a T4 form for tax purposes. The T4 summarizes, among other things, employment income and the legislated portion of supplementary labour income (including employment insurance,[14] and Canada and Quebec pension plan contributions).

Also on each of the T4 forms is the Business Number (BN) of the employer, the unique identifier assigned to the business by the CRA. Ultimate parent enterprises that follow the simplest of business structures, cases where the ultimate parent, enterprise and establishment are one and the same, generally only have one BN. On the other hand, complex enterprises may have many BNs. As shown in the example of a complex structure on page 10, BN identifiers may cover one or more establishments. This paper uses the T4 file prepared by the Income and Expenditure Accounts Division (IEAD) at Statistics Canada. IEAD edited the file to remove erroneous entries, restricted the file to cover only the business sector and assigned enterprise identifiers from the Business Register to each BN. Only ultimate parent identifiers were added to the file before it was used.

The non-legislated portion (including private pensions, worker's compensation, and health and dental benefits) is estimated using the Workplace and Employee Survey (WES). The WES is used to obtain the ratios of non-legislated labour income to gross payroll for each business-size category and industry. The ratio is then applied to the employment income from the T4 to obtain estimates of the non-legislated portion of supplementary labour income by size and industry.

12. The estimates were benchmarked to Rispoli (2009a,b,c) who generated value added by component for unincorporated enterprises and corporations. These, in turn, were benchmarked to the Input-Output Accounts.
13. The advantage of using tax data over establishment-based surveys is that they provide a complete picture of the enterprise. The establishment- (or location-) based surveys that have generally been used to build the Input-Output Accounts collect data on establishments for a particular industry. They cannot provide a picture of the other establishments with the enterprise that operate in other industries. On the other hand, the T4, GIFI and payroll tax data can be readily aggregated to the level of the ultimate parent.
14. The employment insurance paid by employers is assumed to be 1.4 times the contribution of employees.

3.2 Other operating surplus and indirect taxes

When corporations file their T2 Corporation Income Tax Return, they are also required to submit their financial statements (income statement and balance sheet) codified according to the General Index of Financial Information (GIFI). The GIFI is the main data source used to generate a measure of other operating profits (*operating profits* as defined by SNA[15]) and indirect taxes less subsidies. Since the business identifiers on the tax returns are BNs, the Business Register is used to match the tax records to the appropriate ultimate parent. This paper uses the GIFI file prepared by the Enterprise Statistics Division (ESD) at Statistics Canada. ESD assigned enterprise identifiers from the Business Register to the tax records in this file. As in the case of the T4 file, ultimate parent identifiers had to be added.

Other data sources, in addition to GIFI, are used to obtain estimates of other operating surplus because income trusts do not file T2 Corporation Income Tax Returns and because GIFI data for GBEs are generally missing. Profits from income trusts are taken from the T3 Trust Income Tax and Information Return, and data on GBEs are taken from Statistics Canada's Public Sector Statistics Division.

3.3 Mixed income

Since the GIFI data only cover corporations, mixed income, interest payments and depreciation for unincorporated businesses must be separately estimated. Following Rispoli (2009a,b,c), these estimates are obtained from the Tax Estimate Program for unincorporated businesses and from the T1 portions of several Statistics Canada surveys: the Census of Agriculture, various Unified Enterprise Surveys (e.g. retail and accounting), various transportation surveys (e.g. motor carriers of freight), and various service surveys (e.g. automotive repairs). At this time, a methodology to split these components of unincorporated GDP by size has not been developed. Currently, these components are allocated to the small business category as most of these businesses are sole proprietorships or businesses with very few employees.

3.4 Employment

Finally, the CRA requests that employers remit payroll deductions a number of times over the course of the year (bi-weekly, monthly or quarterly, depending on the size of the businesses). The number of paid employees (working owners of unincorporated enterprises are excluded), the amount paid to employees and the amount remitted to the CRA are reported in a PD7 form at the time of the remittance. These administrative data form the basis for the monthly employment estimates presented in the Survey of Employment, Payroll and Hours. Since in this paper the only interest is the business sector, all firms in the government (for instance, hospitals, schools, universities and colleges) and the non-profit sector are removed. Once again, ultimate parent identifiers are added.

15. SNA profits are based on operating profits rather than total profits to include only profits earned during production.

Table 1
Business-sector gross domestic product by size of business, 2005

Size of business	Unincorporated enterprises	Corporations	Business sector
		millions of dollars	
Small	93,324	320,770	414,093
Medium	...	122,409	122,409
Large	...	451,935	451,935
Total	93,324	895,113	988,437
		percent	
Small	100.0	35.8	41.9
Medium	0.0	13.7	12.4
Large	0.0	50.5	45.7
Total	100.0	100.0	100.0

Note: Gross domestic product estimates exclude gross domestic product from owner-occupied dwellings.
Source: Statistics Canada, authors' calculations.

4 Gross domestic product by size of business

Small and medium-sized businesses accounted for $536.5 billion, or 54.3%, of business-sector GDP in 2005, while large businesses accounted for $451.9 billion, or 45.7%, of business-sector GDP in 2005 (Table 1). Large businesses accounted for just over half of GDP in the corporate sector.

Table 2
Components of business-sector gross domestic product by size of business, 2005

	Small	Medium	Large	Corporate	Unincorporated enterprises	Total
			millions of dollars			
Business sector						
Labour income						
Salary and wages	195,600	68,531	185,282	449,413	12,196	461,609
Supplementary labour income	17,725	8,999	34,204	60,928	1,180	62,108
Total	213,325	77,530	219,486	510,341	13,376	523,716
Operating surplus	88,089	41,940	221,182	351,211	17,847 [1]	369,059
Mixed income	...	...	...	...	54,441	54,441
Net indirect taxes less subsidies						
Indirect taxes on production	20,027	3,012	11,313	34,352	7,782	42,134
Subsidies on production	-671	-73	-47	-791	-122	-913
Total	19,356	2,939	11,267	33,561	7,660	41,221
Gross domestic product at basic prices	320,770	122,409	451,935	895,113	93,324	988,437
			percent			
Corporations and unincorporated enterprises						
Labour income						
Salary and wages	42.4	14.8	40.1	97.4	2.6	100.0
Supplementary labour income	28.5	14.5	55.1	98.1	1.9	100.0
Total	40.7	14.8	41.9	97.4	2.6	100.0
Operating surplus	23.9	11.4	59.9	95.2	4.8	100.0
Mixed income	0.0	0.0	0.0	0.0	100.0	100.0
Net indirect taxes less subsidies						
Indirect taxes on production	47.5	7.1	26.9	81.5	18.5	100.0
Subsidies on production	73.5	8.0	5.1	86.6	13.4	100.0
Total	47.0	7.1	27.3	81.4	18.6	100.0
Gross domestic product at basic prices	32.5	12.4	45.7	90.6	9.4	100.0
Corporations						
Labour income						
Salary and wages	43.5	15.2	41.2	100.0	...	...
Supplementary labour income	29.1	14.8	56.1	100.0	...	...
Total	41.8	15.2	43.0	100.0	...	...
Operating surplus	25.1	11.9	63.0	100.0	...	...
Net indirect taxes less subsidies						
Indirect taxes on production	58.3	8.8	32.9	100.0	...	...
Subsidies on production	84.9	9.2	5.9	100.0	...	...
Total	57.7	8.8	33.6	100.0	...	...
Gross domestic product at basic prices	35.8	13.7	50.5	100.0	...	...

1. For unincorporated enterprises, operating surplus consists primarily of interest payments and depreciation.
Note: Gross domestic product estimates exclude gross domestic product from owner-occupied dwellings.
Source: Statistics Canada, authors' calculations.

The share of each of the GDP components accounted for by small and medium-sized businesses is shown in Table 2. Small and medium-sized businesses, including unincorporated businesses, accounted for 58.1% of labour income, but 47.8% of operating surplus and mixed income. This is consistent with the claim that smaller businesses are more labour-intensive.

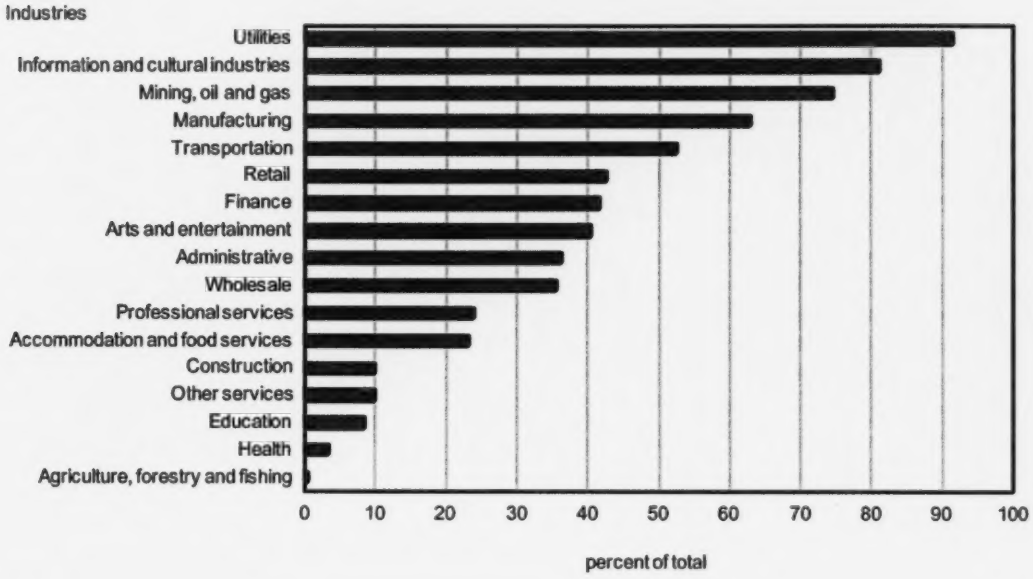
There is another sharp contrast within the labour income component of GDP. Small and medium-sized businesses, including the unincorporated, accounted for 59.8% of salary and wages, but 44.9% of supplementary labour income. This reflects the fact that larger businesses are more likely to include in their employee compensation packages non-wage benefits, such as a private pension plan, and health and dental benefits.[16]

Small and medium-sized businesses, including unincorporated businesses, received 94.9% of the subsidies on production. However, since the level of subsidies is relatively small and because 73.1% of the indirect taxes on production were collected from small and medium-sized businesses, the small and medium-sized businesses accounted for 72.7% of the indirect taxes less subsidies. It should be noted that entities from whom taxes are collected are not necessarily the same as the entities that ultimately bear the tax.[17]

The share of GDP accounted for by large businesses varies by industry (Chart 1). Ordered from the smallest to the largest shares, large businesses accounted for less than half of GDP in agriculture (0.5%), health (3.4%), education (8.4%), other services (9.9%), construction (10.0%), accommodation and food services (23.3%), professional services (23.9%), wholesale (35.5%), administrative (36.4%), arts and entertainment (40.4%), finance (41.6%) and retail (42.6%). The Industries that had a greater large-firm presence were utilities (91.4%), information (81.2%), mining and oil and gas (74.5%), manufacturing (62.9%), and transportation (52.4%).

16. Y. Decady (Statistics Canada 2008) shows that in 2005, 99.8% of workplaces with 500 or more employees offered non-wage benefits, compared to 40.2% for workplaces with 1 to 19 employees.
17. For example, it is an open question whether commercial property taxes, a large fraction of indirect taxes on production, are borne by the property owner or by the consumers of the product made by commercial capital. See Man (1995) and Mieszkowski (1972) for more details.

Chart 1
Share of business-sector gross domestic product of large businesses by industry, 2005



5 Sensitivity analysis

Users of GDP by size class estimates should recognize that the methods and assumptions used herein affect the results. A number of noteworthy assumptions are made in this paper. First, firms are consolidated into enterprise groups headed by an ultimate parent. If one were to use a legal structure below the ultimate parent level, the GDP accounted for by the small and medium-sized categories would likely increase since businesses would be separated into smaller groups. Second, as a business may operate in a number of industries, estimates of GDP by size for a particular industry are sensitive to whether all the operations of a business are included in that industry. Third, if one were to include all independently run franchisee firms under the ultimate parent that owns the franchise brand (the franchisor), the GDP accounted for by the large size class would increase. Fourth, GDP can be produced at different valuations, for example, basic or market prices.

Table 3
Value added and employment by type of operation for manufacturing, 2005

Size of business	Survey of manufacturing						Estimates	
	Plant		Enterprise		Ultimate parent		Ultimate parent	
	Value added	Employment	Value added	Employment	Value added	Employment	Value added	Employment
	percent							
Small	33	40	26	33	25	33	19	30
Medium	39	39	23	27	21	25	18	22
Large	28	21	51	40	54	42	63	48
Total	100	100	100	100	100	100	100	100

Sources: Statistics Canada, authors' calculations and Survey of Manufacturing.

As an illustration of the first and second points above, the estimates from this paper for manufacturing can be compared to those from the 2005 Annual Survey of Manufacturing (ASM). The results of the comparison are shown in Table 3. In this paper, large businesses in manufacturing represent 63% of GDP, compared to 54% in the ASM. The employment distribution between the results of the paper and those of the survey of manufacturing are more similar.

Differences between the findings in this paper and those in the ASM can occur for several reasons. In this paper, a business is defined as a group of enterprises headed by an ultimate parent. This group of enterprises may operate in a number of other industries besides manufacturing. In contrast, the ASM is an establishment-based survey. It collects only information on the manufacturing operations of the group headed by the ultimate parent. Therefore, the share of GDP accounted for by large businesses in this paper would be higher than that found in the ASM if the tax data contained a large amount of activity from other industries. This is because value added coming from other industries within the same group of enterprises is taken into account in this paper. For example, some activities of non-manufacturers would be included in manufacturers in this paper, but not in the ASM. If large manufacturers are more likely to have their own wholesaling arms, then the share of GDP accounted for by the large businesses in this paper would be higher than that found in the ASM.

Defining the business size entity at the plant or enterprise level (the operating enterprise in the statistical structure used by the ASM) by means of the aggregation of plants within an industry contained in the operating statistical enterprise in order to define the size of enterprise rather than the ultimate parent level lowers the share of the large size class. This is because the enterprise group headed by an ultimate parent is broken down into smaller enterprises or establishments; this allows for much larger small and medium-sized classes.

Thus analysts who make use of the estimates presented herein—especially for cross-country comparisons of size distributions—should be cognizant that the point estimates of GDP by size are sensitive to changes in the methods and assumptions used to produce them. Decisions made at each step of the production process—e.g., the definition of a firm as a group of enterprises headed by an ultimate parent, the use of payroll to assign a firm to one industry, the treatment of independently-run franchisees as separate from the franchisor, the valuation of GDP at basic prices, and the assignment of all unincorporated profits to the small firm size category—have an impact on the final estimates. Users should pay close attention to differences in these methodological details, especially in the context of cross-country comparisons.

Moreover, even if the methods are consistently applied, estimates will be sensitive to differences in data sources—e.g., financial statements may be consolidated or unconsolidated, the employment at a firm may be the number of jobs at the firm or it may be the number of individuals that worked for the firm in a particular year, and the employment size of a firm may be its average size over the entire year or it may be its size at a point in time during the year. Decisions that are taken in each of these levels can affect the estimates of the importance of small and medium-sized firms. It is beyond the scope of this paper to provide comprehensive estimates of the sensitivity of the estimates to changes in all these dimensions, but one illustration suffices to make the point.

The Survey of Employment, Payroll and Hours (CANSIM Table 281-0041, seasonally unadjusted employment by employment size of enterprise) can be used to show that the share of employment accounted for by small firms with less than 100 employees varies seasonally by roughly 1.5 percentage points. Distributions of employment often choose one particular point in time to establish the size of a firm. Doing so with this survey then could provide variations of up to 1.5 percentage points. If a relatively simple distribution of employment across firm size categories has a margin of error of 1.5 percentage points, then one would expect at least the same margin of error in the more complex calculation of GDP by firm size.

6 Conclusion

This paper examines the contribution of small, medium-sized, and large businesses to the Canadian economy in 2005. While past studies measure contributions in terms of employment, this paper presents contributions in terms of GDP. GDP is a superior measure to the employment measure because large amounts of input may be used by a particular group but relatively little output may be produced. To develop this measure, firm-level data from a number of sources were utilized.

Overall, large firms with 500 or more employees are found to have accounted for 45.7% of the GDP produced in the business sector. Small and medium-sized businesses, including unincorporated businesses, accounted for the other 54.3%. The large-business share of GDP varied across the components of GDP. Large businesses accounted for the majority of operating surplus and supplementary labour income, but for less than half of overall labour income and indirect taxes less subsidies. The share of GDP accounted for by large businesses varied widely by industry. Large firms had a substantial presence (more than 50% of GDP) in utilities, information, mining and oil and gas, manufacturing, and transportation and warehousing, while they had little presence (less than 10% of GDP) in construction, other services, education, health, and agriculture, forestry, and fishing.

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